DISK DRIVE WITH HEAD-DISK INTERACTION SENSOR INTEGRATED WITH SUSPENSION

ABSTRACT OF THE DISCLOSURE

A Hard Disk Drive (HDD) includes a write-inhibit signal that is generated by a head-disk interaction sensor during a write process that is integrated with a suspension of the HDD when fly-height modulation of the slider is detected during a write process. The suspension load beam includes a dimple and a laminated flexure. The laminated flexure includes a surface that is adapted to receive a slider and a surface that is adapted to contact the dimple. The head-disk interaction sensor is fabricated as part of the laminations of the flexure. The head-disk interaction sensor can be an accelerometer that senses an acceleration of the flexure when the slider contacts the disk of the disk drive and/or a pressure sensor that senses a pressure between the flexure and the dimple when the slider contacts the disk. A write-inhibit circuit is responsive to the sensor signal by inhibiting the write process.